

Industrial Filters

Selection 1

Selecting the element	Selecting the element seal	Selecting the housing
P.4 to P.7	P.8 to P.9	P.10 to P.13

① Selecting the element

Narrow down the element types according to the operating environment, filtration level and element usage.

- Filtration level: Nominal filtration, absolute filtration.....

Nominal filtration

Absolute filtration

- Element usage:.....

Disposable: Element must be replaced after clogging.

Reusable: Element can be cleaned after clogging for continuous usage.

Select element and seal types to meet necessary requirements, from the element selection list.

<Selection requirements>

- Applicable fluid: Select an applicable element according to "applicable fluid" / "material".

- Temperature: Select an element within the operative temperature range.

- Filtration accuracy: Select an element with the required filtration accuracy.

FGD

FGE

FGG

FGA

FGC

FGF

FGH

FQ1

FN

EB

ES

② Calculating the number of elements

- Check the recommended flow for the selected element from the element selection list.....

Determine the value for "required flow rate Π / recommended flow rate".

This value equals the number of elements required.

③ Selecting the housing

- Select a housing that can fit the number of elements determined in (2) from the housing selection list.....

Check that the housing selected meets the necessary requirements.

<Selection requirements>

- Applicable fluid: Select a housing with an applicable seal according to "applicable fluid" / "material".

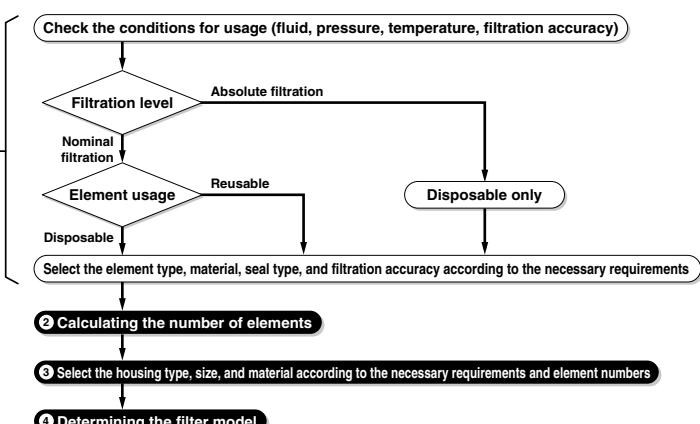
- Temperature:

- Pressure:

④ Determining the filter model

- Select a model by incorporating the symbols for the element and housing selected in (1) and (3).

Filter model: Housing model + element symbol



Industrial Filters

Selection 2

Selecting the Element

Element category		Element type		Applicable fluid check										
Filtration level	Disposable / Reusable	Element description	Element model	Element symbol	Fluid applicability				Element material					
					Pure water	Industrial water	Cleaning fluid	Solutions	Cutting oil	Grinding oil	Filter media	Core		
Nominal filtration	Disposable	Fiber element	EH	H	X	◎	○	×	○	○	○	○	Cotton	Stainless steel 304
			EHM	T	×	◎	○	○	○	×	○	○	Polypropylene	Polypropylene
			EHK	G	×	○	×	○	○	○	○	○	Glass fiber	Stainless steel 316
		P.P. depth element	EJ	W	○	◎	○	○	○	×	○	○	Polypropylene	Polypropylene
		Paper element	EP	P	×	×	×	×	○	×	○	○	Cotton	Polypropylene
	Reusable	Bag element	EJ	E	×	◎	○	○	○	○	○	○	Polyester	—
		Micromesh element	EM	M	×	○	○	○	○	○	○	○	Stainless steel 304 (Epoxy parts)	Stainless steel 304
				L	×	◎	○	○	○	○	○	○	Stainless steel 316	Stainless steel 316
		Sintered metal element	EB	B	×	×	×	×	○	○	×	○	Bronze	—
				S	×	◎	○	○	○	○	○	○	Stainless steel 316	—
		Filter plate laminated element	END	S	×	◎	○	○	○	○	×	○	○	Stainless steel 304

◎: Optimal ○: Applicable △: Caution ×: Not applicable



EH/EHM/EHK



EJ



EP

Note) Operating temperature given per element. For actual usage, consider the operating temperature for seal and filter body.

Operating temperature

Operating temperature <small>(Note)</small>	Nominal filtration accuracy	Recommended flow rate (per element)	Element seal (Symbol)				Applicable housing models									
			NBR (N)	FKM (V)	PTFE (T)	Non-asbestos (A)	FGA	FGC	FGD	FGE	FGG	FQ	FGH	FGF	FN	
-20 to 100°C	0.5 µm 1 µm 5 µm 10 µm 20 µm 50 µm 75 µm 100 µm	3 L/min 10 L/min 15 L/min 20 L/min	N/A				○	○	○	○	○	○	○	X	X	X
0 to 50°C	1 µm 5 µm 10 µm 20 µm	10 L/min 15 L/min	N/A				○	○	○	○	○	○	○	X	X	X
0 to 400°C	1 µm 5 µm 10 µm 20 µm	10 L/min 15 L/min	N/A				○	○	○	○	○	○	○	X	X	X
0 to 60°C	1 µm 3 µm 5 µm 10 µm 25 µm 50 µm 75 µm	30 L/min	N/A				△	△	△	△	△	△	△	X	X	X
0 to 80°C	5 µm 10 µm 20 µm	10 L/min 15 L/min	●	●	—	—	○	○	○	○	○	○	○	X	X	X
0 to 80°C	5 µm 10 µm 25 µm 50 µm 100 µm	400 L/min	N/A				X	X	X	X	X	X	X	○	X	
0 to 100°C	5 µm 10 µm 20 µm 40 µm	15 L/min	●	●	—	—	○	○	○	○	○	○	○	X	X	X
0 to 150°C	74 µm 105 µm		●	●	●	●	○	○	○	○	○	○	○	X	X	X
0 to 120°C	2 µm 5 µm 10 µm 20 µm 40 µm	10 L/min	●	●	●	—	○	○	○	○	○	○	○	X	X	X
0 to 150°C	70 µm 100 µm 120 µm	15 L/min	●	●	●	●	○	○	○	○	○	○	○	X	X	X
0 to 80°C	5 µm 20 µm	40 L/min	●	●	—	—	X	X	X	X	X	X	X	X	○	

●: Compatible seal

○: Standard △: Made to Order specification X: Cannot be incorporated

These values are for water.
(The flow rates will differ if the fluids are of other, higher viscosity types.)

Element seal



Industrial Filters

Selection 3

Selecting the Element

Element category		Element type			Applicable fluid check						
Filtration level	Disposable / Reusable	Element name	Element model	Element symbol	Fluid applicability				Element material		
					Pure water	Industrial water	Cleaning fluid	Solutions	Oil	Cutting oil	Grinding oil
High filtration accuracy	Disposable	HEPO II element	EJ	J	◎	○	×	×	○	○	○
		P.P. HEPO II element	EJ102S	R	○	○	○	○	○	△	○
		Membrane element	ED	D	○	○	○	○	○	○	×
					○	○	×	×	○	×	○
		Membrane P.P. element	ED102S	U	○	○	○	○	○	△	○
		Membrane CA element	ED111S	D	○	○	×	×	○	×	○

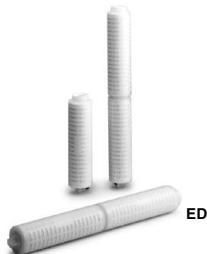
◎: Optimal ○: Applicable △: Caution ✗: Not applicable



EJ



EJ102S



ED

Operating temperature		Filtration accuracy (Filtration efficiency) 99% or more	Recommended flow rate	Element seal (Symbol)				Applicable housing models									
Operating temperature	Filtration accuracy (Filtration efficiency) 99% or more			NBR (N)	FKM (V)	PTFE (T)	Non-asbestos (A)	FGA	FGC	FGD	FGE	FGG	FQ	FGH	FGF	FN	
0 to 80°C	2 µm 4 µm 6 µm 13 µm	20 L/min	● ● ● —	— — ● —	△ △ ○ ○ × ○ X X X X	X X X X X X X ○ X X X	△ △ △ △ △ X ○ X X X X	△ △ △ △ △ X ○ X X X X	△ △ △ △ △ X ○ X X X X	△ △ △ △ △ X ○ X X X X	△ △ △ △ △ X ○ X X X X	△ △ △ △ △ X ○ X X X X	△ △ △ △ △ X ○ X X X X	△ △ △ △ △ X ○ X X X X	△ △ △ △ △ X ○ X X X X	△ △ △ △ △ X ○ X X X X	
0 to 80°C	2 µm 4 µm 6 µm 13 µm		● ● ● —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	
0 to 80°C	0.2 µm	5 L/min	● ● ● —	— — — —	— — — —	— — — —	— — — —	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X
	0.4 µm		— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —	— — — —
0 to 70°C	0.2 µm 0.4 µm	5 L/min	● ● ● —	— — — —	— — — —	— — — —	— — — —	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X
0 to 80°C	0.2 µm 0.4 µm	5 L/min	● ● ● —	— — — —	— — — —	— — — —	— — — —	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X	△ △ △ △ △ X △ X X X X

These values are for water
(The flow rates will differ if the fluids are of other, higher viscosity types.)

●: Compatible seal ○: Standard △: Made to Order specification ×: Cannot be incorporated

FGD
FGE
FGG
FGA
FGC
FGF
FGH
FQ1
FN
EB□
ES□



ED102S



ED111S

Industrial Filters

Selection 4

Selecting the Element Seal

Seal material	Symbol	Applicable fluid check								Operating temperature	
		Fluid applicability									
		Pure water	Industrial water	Cleaning fluid		Solutions			Cutting oil Grinding oil		
				Alkali-based	Acid	Petroleum	Flourine	Alcohol			
NBR	N	○	◎	×	△	×	×	×	○	0 to 80°C	
FKM	V	○	○	○	○	△	△	×	○	0 to 120°C	
Fluororesin	T	○	○	○	○	○	○	○	○	0 to 120°C	
Non-asbestos	A	○	○	△	△	△	○	○	○	0 to 150°C	

◎: Optimal ○: Applicable △: Caution ✗: Not applicable

Applicable housing models										Applicable element symbols														
FGA	FGC	FGD	FGE	FGG	FQ	FGH	FGF	FN		H	T	G	W	P	E	M	L	B	S	J	R	D	U	D
—	—	○	○	○	○	○	—	○	○	N/A	N/A	N/A	N/A	●	N/A	●	●	●	●	●	●	▲	●	●
—	—	—	○	○	○	—	○	○	—	N/A	N/A	N/A	N/A	●	N/A	●	●	●	●	●	●	●	●	●
—	—	—	○	○	—	—	—	○	—	N/A	N/A	N/A	N/A	—	N/A	—	●	●	●	▲	—	●	—	●
○	○	—	—	—	—	—	—	—	—	N/A	N/A	N/A	N/A	—	N/A	—	●	—	●	—	—	—	—	—

○: Standard

●: Applicable ▲: Partially applicable

FGD
FGE
FGG
FGA
FGC
FGF
FGH
FQ1
FN
EB
ES

Industrial Filters

Selection 5

Selecting the Housing

Filter type	Series	Model	Product specification		Material		<input type="checkbox"/> 1
			Maximum operating pressure	Operating temperature	Housing	Seal	
Cartridge	FGH	FGH□2-□3-*1*2	1.0 MPa	0 to 80°C	Stainless steel 316	Fluoropolymer	—
	FQ	FQ101□2□1-□3-*1*2	1.0 MPa	0 to 80°C	Stainless steel 304	NBR	N
						FKM	V
	FGD	FGD□1□2-□3-*1*2	0.7 MPa 1.0 MPa	0 to 80°C	Aluminum SPCD SCS14 Stainless steel 316L	NBR Fluoropolymer	C T
	FGE	FGE□1□2-□3-*1*2	0.7 MPa	0 to 80°C	Stainless steel 304	NBR FKM Fluoropolymer	S L T
	FGG	FGG□1□2-□3-*1*2	0.7 MPa	0 to 80°C		NBR FKM	S L

□1: Housing/seal material

□2: Number of elements

□3: Port size

*1: Element symbol

*2: Element seal



FGH



FQ



FGD

Number of elements					Port size		Applicable element											
Element placement	Element levels	Number of elements	□2		Port size □3	*1												
			Rc 3/8	03		H	T	G	P	M	L	W	B	S	J	R	D	U
1 line	X	0.5	0.5	100	Rc 3/8 □3	X	X	X	X	X	X	X	X	○	X	○	X	
		1	=	1		○	○	○	○	○	○	○	○	○	○	○	○	X
		2		2														
1 line	X	0.5	0.5	0	Rc 1/2 □3													
		1	=	1		○	○	○	○	○	○	○	○	○	○	○	△ X94	△ X0
		2		2														
1 line	X	1	=	1	Rc 1/2 □3	○	○	○	○	○	○	○	○	○	○	○	○	A
		2		2														B
4 lines	X	1	=	4	Rc 1/2 □3													A
		2		8		○	○	○	○	○	○	○	○	○	○	○	○	B
		3		12														C
7 lines	X	2	=	14	Rc 1/2 □3													B
		3		21		○	○	○	○	○	○	○	○	○	○	○	○	C
		4		28														D
R 1	X				Rc 1/2 □3													
						○	○	○	○	○	○	○	○	○	○	○	○	A
																		B
R 2	X				Rc 1/2 □3													
						○	○	○	○	○	○	○	○	○	○	○	○	C
																		D
Rc 2	X				Rc 2 □3													
						○	○	○	○	○	○	○	○	○	○	○	○	



FGE



FGG

FGD
 FGE
 FGG
 FGA
 FGC
 FGF
 FGH
 FQ1
 FN
 EB
 ES

Industrial Filters

Selection 6

Selecting the Housing

Filter type	Series	Model	Product specification		Material		<input type="checkbox"/> 1
			Maximum operating pressure	Operating temperature	Housing	Seal	
Cartridge	FGA	FGA□1□2-□3-*1*2	1.0 MPa	0 to 80°C	Stainless steel 304 SS400	Non-asbestos	S C
	FGC	FGC□1□2-□3-*1*2	1.0 MPa 2.0 MPa 4.0 MPa	0 to 80°C	Stainless steel 304 SS400	Non-asbestos	S C
Bag	FGF	FGF□1□2-□3-*1*2	0.5 MPa	0 to 80°C	Stainless steel 304	NBR	S
			0.5 MPa	0 to 80°C	FKM	L	L
	FN	FN□2□1-□3-*1*2	1.0 MPa	0 to 80°C	Stainless steel 304 SS400 Stainless steel 304 SS400	NBR FKM	S C L R
Back-flushing type					Stainless steel 304	NBR FKM	N V

1: Housing/seal material
 2: Number of elements
 3: Port size
* 1: Element symbol
* 2: Element seal



FGA



FGC

Number of elements				Port size	Applicable element																	
Element placement	Element level	Number of elements	□2	□3	H	T	G	P	M	L	W	B	S	J	R	D	U					
4 to 83 lines	X	1 to 4	=	4 to 332	Refer to p. 35	1B to 6B	Refer to p. 35	○	○	○	○	○	○	△ X29	○	○	△ X80	△ X151	△ X94	△ X30		
1 line	X	1	=	1	A	1/2 B	04	○	○	○	○	○	○	△ X29	○	○	△ X80	△ X151	△ X94	△ X30		
		2		2	B	3/4 B	06	○	○	○	○	○	○	△ X29	○	○	△ X80	△ X151	△ X94	△ X30		
						1 B	10	○	○	○	○	○	○	△ X29	○	○	△ X80	△ X151	△ X94	△ X30		
Bag element	ø190 x L440		1 L440	1A		Rc 2	20	Bag element														
	ø190 x L770		1 L770	1B		3 L440	3A	4 B	40													
						3 L770	3B	6 B	60													
						5 L440	5A															
						5 L770	5B															
Back-flushing element	Element type · Cylindrical · Multilevel type		Cylindrical 1 L250	1101		Rc 1	10	Back-flushing element														
	Element length · L250 · L500		Multilevel 1 L250	1111		Rc 2	20															
			Cylindrical 1 L500	1102																		
			Multilevel 1 L500	1112																		
			Cylindrical 4 L500	4102																		
			For L250																			



FGF



FN

FGD
FGE
FGG
FGA
FGC
FGF
FGH
FQ1
FN
EB
ES